

CLAIMS

We claim:

- 5 1. A joint structure for joining limb members of a mannequin comprising:
a slit positioned on the joining end of a first limb member;
a tab attached to the joining end of a second limb member, adapted to be
received by the slit and pivotally attached to said first limb member; and
a friction-producing assembly fixture recessed within the first limb member and in
10 contact with said tab.
2. The joint structure of claim 1 wherein the tab is fixedly attached to the second limb member.
- 15 3. The joint structure of claim 2 wherein the tab is molded as one unit with the second limb member.
4. The joint structure of claim 1 wherein the tab is pivotally attached to the second limb member to allow rotation of the second limb member with respect to the tab.
20 5. The joint structure of claim 4 wherein a rod assembly attaches the tab to the second limb member.
6. The joint structure of claim 5 wherein the rod assembly comprises a threaded rod
25 and a socket adapted to receive said rod, said socket being formed in said tab.
7. The joint structure of claim 6 wherein the rod assembly further comprises a bushing adapted to receive said rod, said bushing being attached to said second limb member.
30 8. The joint structure of claim 7 wherein said rod has a first end comprising a head and a second end affixed to said socket and said bushing is affixed to said second limb member and disposed between said first and second ends of said

rod, whereby said second limb member cannot be readily removed from said first limb member after assembly of said joint.

- 5 9. The joint structure of claim 1 wherein the friction-producing assembly fixture recessed in the first member to be joined comprises:

an open-ended chamber extending into the first member from said slit;
a reversibly-compressible material positioned at the closed end of said chamber;
and

a bearing positioned between the reversibly-compressible material and the tab.

- 10 10. The joint structure of claim 9 wherein the reversibly-compressible material is a spring.

- 15 11. The joint structure of claim 10, wherein the tab is attached to the first limb member by means of a pivot pin extending through said tab and at least partly through said first limb member.

- 20 12. The joint structure of claim 1 which forms a joint selected from the group consisting of a neck, a shoulder, an elbow, a hip, a knee, and an ankle.

- 25 13. A mannequin comprising a joint structure of claim 1.

- 30 14. A joint structure for joining limb members of a mannequin comprising:

a slit positioned on the joining end of a first limb member;

a tab attached to the joining end of a second limb member, adapted to be received by the slit and pivotally attached to said first limb member by means of a pivot pin extending through said tab and at least partly through said first limb member; and

a friction-producing assembly fixture recessed within the first limb member, said friction-producing assembly fixture comprising:

an open-ended chamber extending into the first member from said slit;
a spring positioned at the closed end of said chamber; and
a bearing positioned between the spring and the tab.

15. A joint structure for joining limb members of a mannequin comprising:
a slit positioned on the joining end of a first limb member;
a tab attached to the joining end of a second limb member, adapted to be
received by the slit and pivotally attached to said first limb member, said tab
having one or more surface depressions; and
a friction-producing assembly fixture recessed within the first limb member and in
contact with said tab.
16. The joint structure of claim 15 wherein the tab is molded as one unit with the
second limb member.
17. The joint structure of claim 15 wherein the tab is pivotally attached to the second
limb member to allow rotation of the second limb member with respect to the tab.
18. The joint structure of claim 17 wherein a rod and socket assembly attaches the tab
to the second limb member.
19. The joint structure of claim 18 wherein the rod assembly comprises a threaded rod
and a socket adapted to receive said rod, said socket being formed in said tab.
20. The joint structure of claim 19 wherein the rod assembly further comprises a
bushing adapted to receive said rod, said bushing being attached to said second
limb member.
21. The joint structure of claim 15 wherein the surface depressions are grooves.
22. The joint structure of claim 15 wherein the friction-producing assembly fixture
recessed in the first member to be joined comprises:
an open-ended chamber extending into the first member from said slit;
a reversibly-compressible material positioned at the closed end of said chamber;
and
a bearing positioned between the reversibly-compressible material and the tab.

23. The joint structure of claim 22 wherein the reversibly-compressible material is a spring.

5 24. The joint structure of claim 23, wherein the tab is attached to the first limb member by means of a pivot pin extending through said tab and at least partly through said first limb member.

25. A mannequin comprising a joint structure of claim 15.

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26. The mannequin of claim 25 wherein said joint structure forms a joint selected from the group consisting of a neck, a shoulder, an elbow, a hip, a knee, and an ankle.

15 27. A joint structure for joining limb members of a mannequin comprising:
a slit positioned on the joining end of a first limb member;
a tab attached to the joining end of a second limb member, adapted to be received by the slit and pivotally attached to said first limb member by means of a pivot pin extending through said tab and at least partly through said first limb member, said tab having one or more surface depressions;
20 a friction-producing assembly fixture recessed within the first limb member, said friction-producing assembly fixture comprising:

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an open-ended chamber extending into the first member from said slit;
a spring positioned at the closed end of said chamber; and
25 a bearing positioned between the spring and the tab.

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28. The joint structure of claim 27 wherein the surface depressions are grooves.

29. A method of assembling a joint structure comprising:

30 a) providing a first limb member to be joined, the joining end of said first member having a slit and a friction-producing assembly fixture recessed within the first limb member;

- b) providing a second limb member to be joined, said second limb member having a tab attached thereto;
- c) placing said tab within said slit so that said tab is in contact with said friction producing assembly fixture; and
- 5 d) securing said tab to said first limb member.

30. The method of claim 29, wherein the friction producing assembly comprises:

- an open-ended chamber extending from said slit;
- a reversibly compressible material in contact with the closed end of the
- 10 chamber; and
- a bearing in contact with the reversibly compressible material; and

step c) comprises placing said tab within said slit to contact said bearing.

31. The method of claim 29 wherein said tab has one or more surface depressions and further comprising the step of positioning the first limb member relative to the

15 second limb member by slidably engaging the bearing in the depression on the tab surface.

32. A method of assembling a joint structure comprising:

- 20 a) providing a first limb member to be joined, said first limb member having a slit positioned on the joining end of said first limb member;
- b) providing a second limb member to be joined,
- c) attaching a tab to said second limb member;
- d) providing a friction producing assembly fixture recessed in the first limb
- 25 member, said friction producing assembly fixture comprising:
 - i. an open-ended chamber extending from said slit;
 - ii. a spring in contact with the closed end of the chamber; and
 - iii. a bearing in contact with the spring;
- e) placing said tab within said slit to contact said bearing; and
- 30 f) securing the tab to the first limb member;

33. The method of claim 32 wherein said tab has one or more surface depressions and further comprising the step of positioning the first limb member relative to the

second limb member by slidably engaging the bearing in the depression on the tab surface.

34. The method of claim 32 wherein the tab is attached to the second limb member by

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a) threading a bushing onto a threaded rod;

b) inserting the head end of the rod and the bushing into a cavity in the second limb member;

c) affixing the bushing to the second limb member;

d) inserting the rod into a socket in the tab; and

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e) affixing the rod to the socket.